



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBD29823-5A
Job Sheet 169324



Part No: RBD29823-5A

Job Qty: 4 ea

Part Name: Tail Rotor Nut Wrench "D" Model (New Design)



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 12/7/17

Job Tracking No:

Due Date: 12/22/17

Created By: Marie Lajeunesse

Type: Stock

Description:

Customer: Heli-Mart Inc (CHMAR01)

3184 Airway Avenue, Building E Costa Mesa, CA, 92626 USA ph:(714) 755-2999

Ship Via: Rev 3

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	4 Ea		12/21/17	0.00	0.00	Start Up Waterjet		<u>De 18/01/10</u>
110	Waterjet	4 pcs		12/22/17	0.00	0.33	Waterjet 2 OMAX		<u>De 18/01/10</u>
120	QC	4 pcs		12/22/17	0.00	0.00	QC2 Waterjet-4		<u>De 18/01/10</u>
130	QC	4 pcs		12/22/17	0.00	0.00	QC8-6		
150	Outsource	4 pcs		12/22/17			MEI001-VC <u>Outsource 1</u>		<u>AT 18/02/15</u>
160	Outsource	4 pcs		12/22/17			GRO002-VC <u>Outsource 12</u>		<u>AT 18/02/15</u>
190	Packaging	4 pcs		12/22/17	0.00	0.00	Packaging2		<u>AT 18/02/15</u>
200	QC	4 pcs		12/22/17	0.00	0.00	QC6		
210	Packaging	4 pcs		12/22/17	0.00	0.00	Packaging3-1 <u>GIA</u>		<u>FEB 16 2018</u>
220	QC21-SA	4 Ea		12/22/17	0.00	0.00	QC21		<u>FEB 16 2018</u>

Part Op 110 - 1-Cut as per Dwg Dwg Rev: 3 Prog Rev: 3 2-Deburr if necessary

Descriptions: 150 - HEAT TREATING 1--Issue P/O to Metcor; P/O 035443 RC 44-47 2-Bead-blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Metcore to ship directly to Groupe Altech

160 - -Issue P/O to Groupe Altech; PO 038848 -Black oxide finish, MIL-C-13924C Class 1 -Certificate of Conformity is required

JAN 23 2018

WAB 24

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	M4130NS.188	0	1	0	0

Part Specifications

Specifications could not be found.

Plex 12/7/17 1:09 PM Dart.lajeunesse.marie

Engrave TV+SN using Marktronics etcher as per DWG DP 18-1-10

DART
AEROSPACE
S031329


Tail Rotor Nut Wrench "D" Model (New Design)

PART NO:
Revision:
Operation:
Change No:

RBD29823 - 5A

Start up Operation

Mfg Date: 01/11/18
Job No: 169324

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

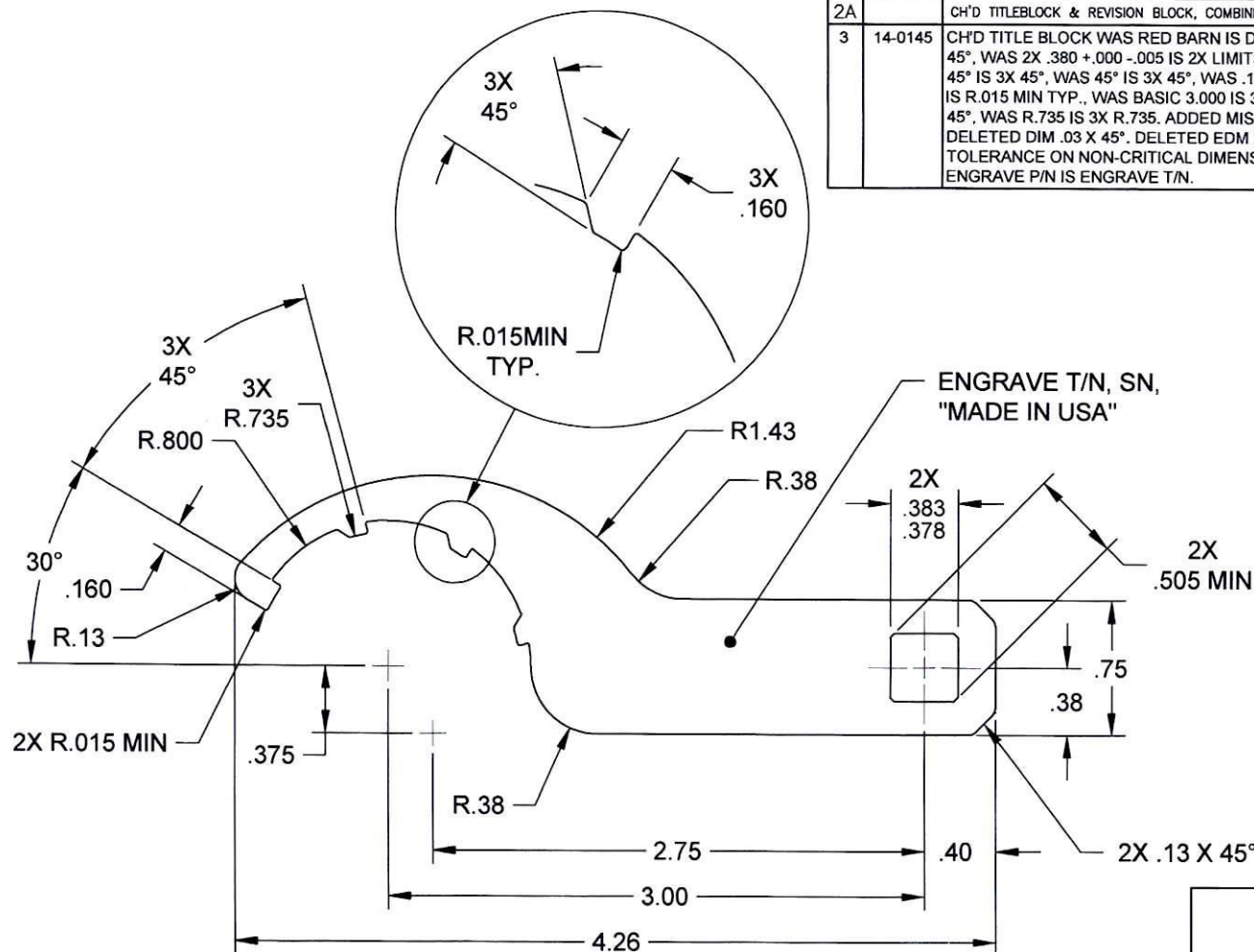
This drawing, specifications, and concepts contained herein are the sole property of Dart Aerospace, and may not be reproduced or used in any fashion without the prior written permission of Dart Aerospace Eugene, OR.

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
1		UPDATED FOR UNIFORMITY WITH -5 (INCREASED TO R1.425).			
2		CHANGED ALFA TO NUMERICAL REV, CH'D SQUARE SIZE/TOLERANCE.	4/23/09	RJC	
2A		CH'D TITLEBLOCK & REVISION BLOCK, COMBINED EDM FILE WITH DWG.	12/8/09	RJC	RW
3	14-0145	CH'D TITLE BLOCK WAS RED BARN IS DART. CH'D DIMS WAS 1/32 X 45° IS .03 X 45°, WAS 2X .380 +.000 -.005 IS 2X LIMITS .383 TO .378, WAS .188 IS (.188), WAS 45° IS 3X 45°, WAS 45° IS 3X 45°, WAS .160 IS 3X .160, WAS LIMITS R.015 TO .020 IS R.015 MIN TYP., WAS BASIC 3.000 IS 3.00, WAS 2X 1/8 CHAMFER IS 2X .13 X 45°, WAS R.735 IS 3X R.735. ADDED MISSING DIMS 2X .505 MIN, 2X R.015 MIN, .38. DELETED DIM .03 X 45°. DELETED EDM DETAIL & CALLOUT & Ø.250 HOLE. CH'D TOLERANCE ON NON-CRITICAL DIMENSIONS. CH'D ENGRAVE NOTE WAS ENGRAVE P/N IS ENGRAVE T/N.	9/8/14	DJN	RJC

SHOP COPY

RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 169324 MWS
1712-07



DART AEROSPACE	
TITLE TAIL ROTOR NUT WRENCH ("D" MODEL)	
DWG NO. RBD29823-5A (NEW STYLE)	REV 3
MAT'L 4130	DRAWN BY: COLE
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES XXX ± .005 FRACTIONS ± 1/8 XX ± .01 ANGLES ± 5° X ± .1	APPROVED <i>D Weil</i>
HEAT TREAT FINISH 44-47 Rc	SPEC BLACK OXIDE
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 X 45° OR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL MD 500 D
SCALE 1:1	DATE 7-31-00 SHEET 1 of 1

ASSY QTY	ASSY QTY	B/O	PART #	QTY	DESCRIPTION	MATERIAL	B/O INFORMATION OR SPECIFICATIONS
				1	WRENCH	4130	3/16 x 1-5/8 x 4-1/2

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détail

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
324792	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

GROUP ALTECH

2455 ALPERN

ST LAURENT

QC H4S1N9

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
38843	N/A	4130		
SPÉCIFICATIONS DU PROCÉDÉ processing specifications				
SEL HARDEN				
HARDEN AND TEMPER				
EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results				
HARDNESS 44 - 47 HRC 4 46 - 47 HRC				
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description		
4	1	RBD29823-5A (4) RBD29823-5A JOB. 169324 1 SAC DE PAPIER		

COMMENTAIRES / comments

SALT HARDEN 1600F, 30 MIN
TEMPER 500F, 3 HRS
TEMPER 550F, 3 HRS

Heat treatment (HT) was performed with equipment that meets the requirements of requested specification. All HT operations were performed in compliance with the required HT specification and all verifications have been performed and documented. No unauthorized changes were performed in regards to the HT. We certify that the material was manufactured, sampled, tested and inspected in accordance with the material specification and the purchase order and was found to meet the requirements.

This document and any attached documents may contain confidential or proprietary information and may be subject to export control laws and regulations. If you are not the intended recipient, you are notified that any dissemination, copying of this e-mail and any attachments thereto or use of their contents by any means whatsoever is strictly prohibited. Unauthorized export or re-export is prohibited.

Le traitement thermique (TT) a été fait en utilisant des équipements en conformité avec la spécification demandée. Toutes les opérations de TT ont été faites en conformité avec les requis de la spécification demandée et toutes les vérifications et les tests demandés ont été faites et documentés. Aucun changement n'a été faite par rapport au TT. On certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec les spécifications du matériel et le bon de commande et le matériel rencontre les exigences spécifiées.

Ce document et les documents qui lui sont joints peuvent contenir des informations confidentielles, être soumis aux réglementations relatives au contrôle des exportations ou ayant un caractère privé. S'ils ne vous sont pas destinés, nous vous signalons qu'il est strictement interdit de les divulguer, de les reproduire ou d'en utiliser de quelque manière que ce soit le contenu. Toute exportation ou réexportation non autorisée est interdite.

02 FEV. 2018

Isabel Otero
QA Technician





Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO038843**

Supplier: MEI001-VC
Metcor Inc.
560 Boul. Arthur Sauve
Saint-Eustache
QC
J7R 5A8 Canada
Phone: 450 473 1884
Fax: 450 491 5498

PO No: PO038843

PO Date: 1/23/18

Due Date: 1/30/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

E-MAILED
JAN 26 2018

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

REVISED \$

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	170134	RBA9937-5	Tail Rotor Nut Wrench "C" Model (Rb Design) HEAT TREATING 1--Issue P/O to Metcor ; P/O _____ RC 45-47 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Metcore to ship directly to Groupe Altech	Firmed	1/30/18	2 pcs	0 pcs 2 x	2 pcs	\$75.00/pcs	\$150.00
Line Item Note Parts made from 4130N Sheet .188 Ship Directly to Groupe Altech										
2	170135	RBA9937-5	Tail Rotor Nut Wrench "C" Model (Rb Design) HEAT TREATING 1--Issue P/O to Metcor ; P/O _____ RC 45-47 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Metcore to ship directly to Groupe Altech	Firmed	1/30/18	2 pcs	0 pcs 2 x	2 pcs	\$75.00/pcs	\$150.00
Line Item Note Parts made from 4130N Sheet .188 Ship Directly to Group Altech										

PURCHASE ORDER

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	169324	RBD29823-5A	Tail Rotor Nut Wrench "D" Model (New Design) HEAT TREATING 1--Issue P/O to Metcor ; P/O _____ RC 44-47 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Metcore to ship directly to Groupe Altech	Firmed	1/30/18	4 pcs	0 pcs	4 pcs	\$75.00/pcs	\$300.00
Line Item Note Parts made from 4130N sheet .188 Ship directly to Group Altech										
4	170019	RB877528-4-7	6 Tooth Cutter P/O to Metcor :P/O _____ Heat treat to RC 50-60, Bead blast after heat treat, part made from drill rod O1 Certificate of Conformity required ship directly to KG grinding	Firmed	1/30/18	5 pcs	0 pcs	5 pcs	\$60.00/pcs	\$300.00
Line Item Note Parts made from T-01 Round 0.750 ship directly to KG Grinding										
5	168220	646.3013	Blade HEAT TREAT AS PER DWG, SEE NOTE #3 ISSUE P/O: FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL	Firmed	1/30/18	12 pcs	0 pcs	12 pcs	\$3.324468/pcs	\$39.89
6	168222	646.3015	Blade FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS As per dwg 646.3000 PART ARE MADE FROM AISI A2 TOOL STEEL DETAIL OF C OF C REQUIRED	Firmed	1/30/18	12 pcs	0 pcs	12 pcs	\$3.324468/pcs	\$39.89
7	168230	646.3314	Blade HEAT TREAT AS PER DWG 646.3300 FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL	Firmed	1/30/18	10 pcs	0 pcs	10 pcs	\$3.324468/pcs	\$33.24

PURCHASE ORDER

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
8	168231	646.3315	Blade HEAT TREAT AS PER DWG 646.3300 FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL PLEASE NOTE: DETAIL C OF C REQUIRED	Firmed	1/30/18	10 pcs	0 pcs	10 pcs	\$3.324468/pcs	\$33.24
						✓	10x	At 18/02/05		
9	168232	646.3316	Blade HEAT TREAT AS PER DWG 646.3300 FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL PLEASE NOTE: DETAIL C OF C REQUIRED	Firmed	1/30/18	10 pcs	0 pcs	10 pcs	\$3.324468/pcs	\$33.24
						✓	10x	At 18/02/05		
10	168266	646.9711	Blade PO to Metcor: FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL PLEASE NOTE: DETAIL C OF C REQUIRED	Firmed	1/30/18	40 pcs	0 pcs	40 pcs	\$3.32447/pcs	\$132.98
						✓	40x	At 18/02/04		
Grand Total:										\$1,212.50

Order Notes

Procurement Quality Clauses
 A005 right of entry
 A012 chemical and physical test report
 A016 personnel qualification
 A017 raw material identification (as applicable)

A022 Apical Processing
 A024 process certifications
 A026 certification of material conformance

A041 quality management system
 A042 dart notification by supplier
 A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit
www.dartaerospace.com for further explanation.

Plex 1/26/18 8:31 AM dart.lavoie.chantal



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO038848

Supplier: GRO002-VC
Group Altech
2455 Halpern
St Laurent
QC
H4S 1N9 Canada
Phone: 514-335-3666
Fax: 514-335-3868

PO No: PO038848

PO Date: 1/24/18

Due Date: 2/20/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

FEB 13 2018
E-MAILED

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	170134	RBA9937-5	Tail Rotor Nut Wrench "C" Model (Rb Design) -Issue P/O to Groupe Altech; PO _____ -Black oxide finish, MIL-C-13924C Class 1 -Certificate of Conformity is required	Firmed	1/30/18	2 pcs	0 pcs 2x	2 pcs A1 18/02/15	\$15.00/pcs	\$30.00
2	170135	RBA9937-5	Tail Rotor Nut Wrench "C" Model (Rb Design) -Issue P/O to Groupe Altech; PO _____ -Black oxide finish, MIL-C-13924C Class 1 -Certificate of Conformity is required	Firmed	1/30/18	2 pcs	0 pcs 2x	2 pcs A1 18/02/15	\$15.00/pcs	\$30.00
3	169324	RBD29823-5A	Tail Rotor Nut Wrench "D" Model (New Design) -Issue P/O to Groupe Altech; PO _____ -Black oxide finish, MIL-C-13924C Class 1 -Certificate of Conformity is required	Firmed	1/30/18	4 pcs	0 pcs 4x	4 pcs A1 18/02/15	\$15.00/pcs	\$60.00

Grand Total: \$120.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 2/13/18 9:59 AM dart.baker.diane

M. COLIC.

50, BOULEVARD ANTHOIR-SA

USSLACHE, QC, J7R 5A5

Tél. 450-443-1001

Télécopieur / Fax: administration 450-421-5493

Télécopieur / Fax production: 450-421-5494

Certificat de Conformité
Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
324792	1

CLIENT / Customer: EN

DAIRT AEROSPACE

1155 ALPERM

SAINT LAURENT

ON 304 15

LIVRÉ À / shipped to:

GROUP ALTECH

2455 ALPERM

ST LAURENT

QC H4S 1K5

COMMANDE DU CLIENT customer po	CLASSIFICATION PIÈCE part classification	MATÉRIEL material	MAÎTRE D'ŒUVRE piece : maker	PROGRAM
30543	N/A	4130		

SPECIFICATIONS DU PROCÉDÉ

processing specifications

REMARKS

REMARKS / REMARKS

REMARKS / REMARKS: SPECIAL / SPECIALS EXÉCUTÉS / performed RESISTANCE TO IMPACT tests
46-47 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
1		RESISTANCE TO IMPACT RESISTANCE TO IMPACT tests 46-47 HRC
		1 SAC DE POUSSIERE

COMMENTAIRES / comments

APPROUVÉ par / Approved by

Signature



DATE: 2018-02-12